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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,137

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Arnaud Bailleul

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12/03/2010

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EXAMINER

SMITH, CHENECA

ART UNIT

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2192

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,137	<b>Applicant(s)</b> BAILLEUL ET AL.	
	<b>Examiner</b> CHENECA SMITH	<b>Art Unit</b> 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Applicant's amendment and response dated September 28, 2010 has been provided in response to the April 28, 2010 Office Action which rejected claims 1-8, wherein claims 1-8 have been amended. Thus, claims 1-8 remain pending in this application and have been fully considered by the examiner
2. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection. See *Lui et al (Rule –Based Detection of Inconsistency in UML Models)*, new art being made of record.
3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Lui et al, Rule –Based Detection of Inconsistency in UML Models, 2002 (hereinafter Lui).

As to claim 1, Lui teaches a method for verifying rules on UML models (see Abstract - *we define a production system language and rules specific to software designs modeled in UML*), comprising:

establishing a model (see page 7, 1<sup>st</sup> paragraph – *we define UML constructs and inconsistency elements for production system* and page 8, 2nd paragraph - *we first define working memory elements for UML constructs and necessary information to represent inconsistencies and their resolution scheme*),

writing verification rules for a tool (*i.e. RIDE (Rule based Inconsistency Detection Engine)*), see Fig.6 and associated text) for model manipulation (see page 7, 1<sup>st</sup> paragraph – *present rules that capture classes of inconsistencies from section 2* and 2<sup>nd</sup> paragraph – *a production system... uses rules, called production rules or productions in short, to represent its general knowledge and keeps an active memory, known as the working memory (WM), of facts (or assertions) which are called working memory elements (WMEs)*);,

structuring data of the model as so to render the data utilizable by the tool for model manipulation (see page 7, last paragraph - *by converting an UML model to and from the production system representation, we can use the production system to check for inconsistencies and resolve them appropriately*),

producing using the tool for model manipulation a verification file based on the data and the verification rules (see page 8, 1<sup>st</sup> paragraph – *we use an approach similar to Argo/UML in that it delivers inconsistency notices to the user's workspace and have the user initiate the resolution and provide input data*),

producing a verification report readable by a user on the basis of the verification file (see page 12, 2<sup>nd</sup> paragraph – *as both the editor and the rule engine maintain their own representations of the UML model and inconsistency report, a synchronizer exists to keep them identical; it sends changes of the editor's model to the rule engine and delivers inconsistency report and modifications... back to the editor*).

As to claim 2, Lui teaches the method as claimed in claim 1, wherein the verified rules are one at least of the rules relating to the consistency of the model (see page 8, 2<sup>nd</sup> paragraph – *inconsistency rules that identify inconsistencies of designs*).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lui in view of Kovse et al, Generic XMI-Based UML Model Transformations, September 02-05, 2002 (hereinafter Kovse).

As to claim 3, Lui teaches the method as claimed in claim 1, but does not specifically teach wherein the file of the model, established in the UML format, is exported in the XMI format to the MIA tool. In an analogous art, however, Kovse is cited to teach wherein the file of the model, established in the UML format, is exported in the XMI format to the MIA tool (see page 192 2<sup>nd</sup> paragraph – *a UML model  $m_i$  is given; a human or software agent wants to transform  $m_i$ , i.e. add, remove, or modify model elements to obtain a model  $i+1$*  and page 193 1st paragraph - *the agent produces an XMI document describing the transformation that has to be applied to obtain the model  $m_{i+1}$* ). It would have been obvious to one having ordinary skill in the art at the time of the invention to have combined the teachings of Lui and Kovse in order to provide users with an improved technique that would promote model reuse and also speed up the modeling process, as disclosed by Kovse (see Conclusion page 196).

As to claim 6, Lui teaches the method as claimed in claim 2, but does not specifically teach wherein the file of the model, established in the UML format, is exported in the XMI format to the MIA tool. In an analogous art, however, Kovse is cited to teach wherein the file of the model, established in the UML format, is exported in the XMI format to the MIA tool (see page 192 2<sup>nd</sup> paragraph – *a UML model  $m_i$  is given; a human or software agent wants to transform  $m_i$ , i.e. add, remove, or modify model elements to obtain a model  $i+1$*  and page 193 1st paragraph - *the agent produces an*

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*XML document describing the transformation that has to be applied to obtain the model  $mi+1$* ). It would have been obvious to one having ordinary skill in the art at the time of the invention to have combined the teachings of Lui and Kovse in order to provide users with an improved technique that would promote model reuse and also speed up the modeling process, as disclosed by Kovse (see Conclusion page 196).

8. Claims 4, 5, and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Lui in view of Berenbach et al (US Patent 7,480,893 B2).

As to claim 4, Lui teaches the method as claimed in claim 1, but does not specifically teach wherein the report file produced by the MIA tool is in the XML format. In an analogous art, however, Berenbach is cited to teach wherein the report file produced by the MIA tool (*i.e. modeling application*, see Fig.3, 301 and associated text) is in the XML format (see col.7 lines 36-38 and line 45-46). It would have been obvious to one having ordinary skill in the art at the time of the invention to have combined the teachings of Lui and Berenbach in order to provide an improved method of model checking that would reduce the overall design, development and testing costs, as disclosed by Berenbach (see col.1 lines 58-60).

As to claim 5, Berenbach further teaches wherein the file in the XML format produced by the tool is converted into the XSLT format so as to be transformed into a document file of another appropriate format (see col.7 lines 36-38 and line 45-46).

As to claim 7, Lui teaches the method as claimed in claim 2, but does not specifically teach wherein the report file produced by the MIA tool is in the XML format.

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In an analogous art, however, Berenbach is cited to teach wherein the report file produced by the MIA tool (*i.e. modeling application*, see Fig.3, 301 and associated text) is in the XML format (see col.7 lines 36-38 and line 45-46). It would have been obvious to one having ordinary skill in the art at the time of the invention to have combined the teachings of Lui and Berenbach in order to provide an improved method of model checking that would reduce the overall design, development and testing costs, as disclosed by Berenbach (see col.1 lines 58-60).

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lui in view of Kovse, as applied to claim 3 above, and further in view of Berenbach et al (US Patent 7,480,893 B2).

As to claim 8, Lui in view of Kovse teaches the limitations of claim 3, but does not specifically teach wherein the file in the XML format produced by the tool is converted into the XSLT format so as to be transformed into a document file of another appropriate format. In an analogous art, however, Berenbach is cited to teach wherein the file in the XML format produced by the tool is converted into the XSLT format so as to be transformed into a document file of another appropriate format (see col.7 lines 36-38 and line 45-46). It would have been obvious to one having ordinary skill in the art at the time of the invention to have combined the teachings of Lui and Kovse with those of Berenbach in order to provide an improved method of model checking that would reduce the overall design, development and testing costs, as disclosed by Berenbach (see col.1 lines 58-60).



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHENECA SMITH whose telephone number is (571)270-1651. The examiner can normally be reached on Monday-Friday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHENECA SMITH/  
Examiner, Art Unit 2192  
11/23/2010

/Tuan Q. Dam/  
Supervisory Patent Examiner, Art Unit 2192